



**MISSOURI DEPARTMENT OF TRANSPORTATION  
MATERIALS ENGINEERING  
Jefferson City, Missouri**

**Test Method  
MoDOT T39  
PULL-OUT TESTS ON EXPANSIVE MORTARS**

**1.0 SCOPE**

This test method covers the procedure for determining the total load in pounds required to cause failure of expansive mortars used for grout.

**2.0 PROCEDURE**

**2.1** Concrete cylinders are prepared using Burlington Limestone aggregate, moist cured ten days and drilled with a two-inch diamond bit to a depth of nine inches. After moist curing for another thirty days, Number 5, grade 60, deformed reinforcing bars complying with AASHTO M31, two feet in length are grouted into place in the prepared concrete cylinders. After curing at  $75F \pm 7F$  at a relative humidity of not less than 50% for seven days the reinforcing rods are pulled from the concrete cylinders at a rate of 0.5 inches per minute. Record the total load in pounds required to cause failure of the system, where the failure occurred, and the condition of the bond between mortar and concrete.

